OHIO CULTIVATOR.

A Semi-Monthly Journal of Agriculture and Horticulture.

VOL. 4. COLUMBUS, OHIO, JULY 1, 1848. NO. 13.

OHIO CULTIVATOR.

(Published on the 1st, and 15th, of each Month.)

M. B. BATEHAM,

EDITOR AND PROPRIETOR.

TERMS:

Single Subscriptions, or any number less than four, One Dollar each per year. Four copies, ordered at one time, (they need not be to one address,) Three Dollars, and at the same rate (*seventy five cents each*) for any larger number—payments in all cases to accompany the orders

No subscriptions received for less than one year; and all must commence with the first number of a volume

☞Post Masters, and all friends of agriculture, are respectfully solicited to use their influence to obtain subscribers.

Letters enclosing current bills, in accordance with the foregoing terms, may be sent at the expense and risk of the publisher.

The First Three Volumes of the Ohio Cultivator, neatly bound, (stitched and trimmed,) in printed covers, can be had for 75 cents each. They can be sent by mail as Pamphlets, costing 21 cents postage. Person sending $1, will receive the volume *postage paid*.

Address M. B. BATEHAM, Columbus, O.

Inquiries---Thorn Seeds, Gooseberries.

Mr. Bateham:—I wish to make two inquiries. First—what is the best method of managing the seeds of the hawthorn, to make them vegetate? A year ago last spring I sowed about a gallon of seed, (haws,) and no plants have made their appearance as yet. I sowed the seeds in rows and covered them about three inches deep. I saved the seed myself from a stock that originally came from Scotland. They are of the pure hedge thorn, and have done well with me in this country. I have a thrifty hedge on my farm, and this fall expect to have about half a bushel of the seed, which I desire to sow.

Second inquiry—How can I manage the *gooseberry*, so as to obtain fair fruit in this country? I have tried them several years and they do no good with me. A kind of rust or mildew comes on the fruit when about half grown, and also on the young shoots, and destroys them. I have tried all the remedies for this evil that I have seen published in the papers, with no effect. Any information upon either of the above subjects through your excellent paper, would greatly oblige me, and perhaps be of some benefit to others. Wm. Scott.

Columbiana county, O., June 1848.

Remarks.—Thorn seeds cannot be made to vegetate with any degree of success the first season after the seed is saved, nor at all if the seed is allowed to become thoroughly dried before planting. The usual way with nurserymen is, to put the haws or seeds into moist sand or earth, in a box or shallow hole in moist ground, where they will be exposed to air and moisture, and frost in winter, [and not become dry,] for a whole year; then in the fall, [one year after gathering the seed,] sow in rich mellow earth, covering only about one inch in depth.—Or, if preferred, the seeds may be sown early the spring following. In this way success may be anticipated, but it is not always certain.

As we have before stated, we have no confidence that hawthorn hedges will be found to succeed permanently in this country. The heat and drought of summer, and numerous kinds of insects, in this country, are found to be so injurious as to destroy them in a few years.

In regard to the gooseberry blight, it is a subject that has excited much attention and induced a large number of experiments within ten or twelve years past, especially among horticulturists from England and Scotland, where this fruit is so highly and justly prized. We know of nothing to suggest as a remedy that has not already appeared in our columns. If any of our readers do, we hope they will make free to communicate.—Ed.

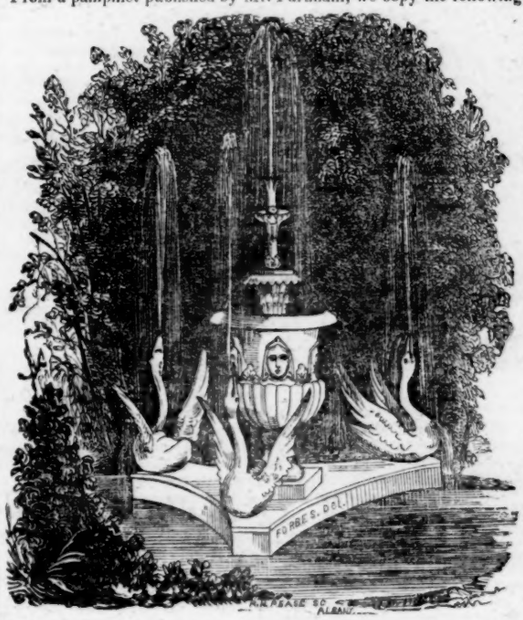
Rohan Potatoes.—We unite with a correspondent in requesting those who are in the habit of growing Rohan potatoes in Ohio, to inform us whether this variety is found to escape the rot; also how they compare with the Mechannock and other varieties in quality for table use, or in yield for stock.

Ornamental Fountains.

Having alluded to ornamental fountains in connection with water rams and other hydraulic machinery, several of our subscribers have been induced to make inquiries of us respecting the forms of these fountains, the cost, and the places where to be obtained.

Mr. D. L. Farnam, No. 29, Fulton st., New York, is the only person that we know of who is extensively engaged in the manufacture of these articles. A branch of his establishment has recently been commenced at Cincinnati, where fountains, pumps, and other hydraulic machinery can be supplied; also Farnham's improved fire engine, of which we shall speak at another time.

From a pamphlet published by Mr. Farnham, we copy the following remarks and illustrations:



"I have had several applications, by letter, for information on the subject of the best plan of making a *cheap* fountain, and will here describe one.

"First, we will take it for granted that there is a head of water 8 feet or over, that will supply 25 gallons or upwards per hour; select a location, say the centre of the grass plot, or gravel walk in front of your house; then drive a stake for the centre, and with a rope and stick sweep a circle of the size you wish the basin—take out the ground from the centre outward, forming a basin sunk in the centre 10 or 12 inches. The earth taken from the basin I should remove, as I think a raised bank around a fountain does not improve it. By cutting your circle clear through the turf you will have a handsome grass edge around the basin. The pipe from the reservoir may be half inch, and will cost about 87½ cents a rod. This pipe must be brought in a trench to the foundation and rise perpendicular in the centre. To this end you want a brass rose jet that will cost say one dollar. To carry off the superfluous water, you can insert a pipe at the height you want the water to stand in the basin, and lead the water off under ground, or let it run off on the surface, which will do no injury as to appearance or in fact, as it will be pure water. The next operation is to make the basin tight, which, on the *very cheap* plan, may be done with clay, by puddling the bottom and sides, or by a coat of hydraulic cement, which will be but a small expense. In using cement, mix one-third clear sand with it, and plaster the inside of the basin, having first rammed the ground hard. Next, get, if you can, clean white pebbles, of the size of a walnut or thereabouts, to cover the inside of the basin, and surround the pipe with handsome clean stones, piled in the shape of a cone. This being done, you will have a handsome fountain."

"Running water, in the form of a jet or cascade, or in *motion* any way, gives animation to the scenery, renders the air pleasanter in warm weather, gives life to vegetation in its vicinity, and pleasure to all within the sphere of its attraction. Those who have a supply of water, must be wanting in energy, taste, or information, or they would have fountains, when the whole outlay, besides their own time, will be for the lead pipe, as they may dispense with brass work, and contracting the lead pipe at the end, have a single stream rising perpendicularly, which will spread at the top, and by some is admired more than the rose jet. There, reader, you have a plan of a *cheap* fountain that can be made in a day, and as there is no objection on account of expense, if you have the water, go to work and improve your advantages. After you have found the increase of enjoyment to yourself, family and visitors, perhaps in gratitude you will feel disposed to increase the pleasure of sight by sending to me for something to *ornament* your fountain."

Here follow in the pamphlet descriptions and engravings of various forms of ornamental fountains, beginning with the simplest and least expensive. They are made chiefly of cast iron, and when painted white, bear a close resemblance to marble, while they are much more durable than that material. The cost of the fountains, is from $10 to $200, according to size and pattern. The one represented above, consists of an urn with other ornaments above, to which is added a triangular base and three swans. The cost of the whole is $85. A handsome fountain consisting of the urn &c., on a square base, omitting the swans, costs only $35. The height of this is about 5 feet. The water from the jet falls back on the ornaments, dripping from one to the other into the urn, then runs over the edge falling into the basin below. The urn may be placed on a rock or large stones in the centre of the basin. The basin is formed in the ground, made tight with cement or clay, then lined inside with fine pebles and

shells. The next cut represents a fountain consisting of a highly ornamented centre post, supporting a figure of hebe, and resting on a triangular base on which are three dolphins. "The fountain," says Mr. Farnam, "has a very rich and classic appearance, and cannot fail to strike the attention of observers, as combining beautiful proportions and elegance of detail, with sufficient variety to render it pleasing, viewed from different positions or at different times. It is sufficiently large for any private grounds, the height being about 8 feet, and diameter at the base 6 feet." The price is $200.

A fountain of this pattern may be seen in front of the court house in Zanesville, but we have never seen it in operation when it had a sufficient supply of water to make it appear to good advantage.

Persons wishing to obtain fountains, or further information on the subject, will do well to address Mr. Farnam as above, or D. L. Farnam & Co., Cincinnati.

How to Hold your Lines.

Next time you hitch your horses to the plow, instead of fastening your lines to the handles, put them over your head (as many others do) and let them pass round your neck. But you say you don't belong to the "stiff necked generation." Glad of it, and I don't want you *should*; so put one arm over and let the other line rest on your shoulder. But that don't work right, it presses the neck on one side, stops the circulation of the blood, chafes the face, &c., yet you think it the best method you know of. Well, try *once* more—put your other arm through, and let the lines drop to your waist; or, if you choose them not so low, tie a knot in the lines at the right place and throw the loop back over your shoulders, which will keep the lines just where you wish them. If your horse "bears hard on the bit," all the better, for he helps you along—and instead of being pulled in the form of the "invincible Armada," by having the horse hitched to your neck or shoulders, you can now walk straight and easily—and if you wish to take the lines they are right at your hands and not up by your head. Try it one half hour, and then if you do not like it, don't quit and say you are not "used to it," but try it all day, and you *will* be "used to it," and like it too. K. R.

Morrow Co., O., June 1848.

Osage Orange--Inquiry.

Mr. Editor.—Can you or any of your readers tell an inquirer whether in case the ground is plowed frequently close to an Osage Orange hedge, the plow will not sever the horizontal roots and thereby injure the hedge?

Again, if liable to the above injury, would it not be well to subsoil the ground designed for the hedge, before planting, so that the roots may run deep enough to be out of the reach of the plow: or, cut a ditch on either side of the hedge row, throwing the earth on to the space designed for the hedge and plant on the ridge?

Xenia O., June, 1848. J. C. Galloway.

Remarks.—The roots of the Osage Orange are so strongly inclined to run deep that we do not apprehend any serious difficulty of the kind suggested. In very poor soils, however, having a hard subsoil beneath, it is certainly advisable to subsoil (and enrich) the ground designed for the hedge. On the farm of Mr. Gowen near Philadelphia, we saw grain growing quite close to the hedge, and no injury had been sustained by plowing.—Ed.

Extracts from Report of the Commissioner of Patents for 1847.

During the year ending December 31, 1847, the whole number of applications for patents, is fifteen hundred and thirty-one. The whole number of caveats filed during the same period is five hundred and thirty-three

The number of patents issued in 1847 is five hundred and seventy-two, including fourteen re-issues, three additional improvements, and sixty designs; classified and alphabetical lists of which, with the names of the patentees, are annexed, marked K and L. Three disclaimers were, during the same time, entered.

The number of applications for patents examined and rejected during the year 1847, is five hundred and fifty-seven; being very nearly as many as were granted. Many of the rejected cases may, however, be reconsidered, and perhaps, upon further examination, passed, and patents issued for the inventions or improvements claimed by the applicants.

The receipts of the office during the year 1847, including duties and fees, paid in on applications for patents, caveats, re-issues, disclaimers, additional improvements, extensions and for copies, amount, in the whole, to $63,111 19 ; of which sum, $8,008 43 have been repaid on applications withdrawn, and for money paid in by mistake.

The expenses of the office during the year 1847, are as follows, viz: For salaries $16,350; temporary clerks $6,-937 57; contingent expenses, $8,657 77; compensation of the chief justice of the District of Columbia, sitting on appeals from the commissioner of patents, $100; library, $1,049 58; agricultural statistics $465; amounting, in the whole, to the sum of $33,559 92.

Nearly all of its revenues are derived from inventors.—It is sustained by their contributions; its services are appropriated to the promotion of their particular interests, although rendered to all other interests when required; and it may, therefore, truly be regarded as the head and representative of the inventive genius and the industrial arts of the country.

In the year 1844, the year proceeding to my appointment to the office of Commissioner, the number of applications for patents was 1,045, and the caveats filed 380. In 1845, the number of applications was 1,246, cavents 452. In 1846, the number of applications was 1,272, caveats 448. And in 1847, as before stated, the number of applications was 1,521, caveats 572. Thus since my appointment to the office of Commissioner of Patents, the business of the office has increased in the ratio of 33 per cent.

During the five years commencing with 1840, and ending with 1844, embracing the five last years preceding my appointment to the office of Commissioner, the amount paid into the treasury to the credit of the Patent Fund was $25.200 43. During the three years since my appointment, the amount paid into the treasury is $37,018 72, showing an increase of surplus over expenditures in a much greater ratio than 33 per cent.

It will be recollected that no appropriation was made by Congress for the Report upon the state of Agriculture, for the year 1846, and none accordingly was made. At the last session the usual appropriation for the collection of agricultural statistics was made, which duty has been performed, and its results are annexed.

On account of the interruption of the agricultural report in 1846, and the consequent suspension of the investigations in which this office was then engaged, and the abandonment of all the efforts which it was then making, and means which it had in its possession to obtain information, the undersigned has had much difficulty in resuming this branch of his duties. Yet, it is believed that the estimates of crops for 1847, now submitted, will approximate very nearly to the real quantities produced. If they should be defective in any respect, as they must of course be, perfect accuracy being unattainable, they will be found to err on the favorable side; that is to say, they will be found to be below the actual results.

On examining the tabular estimates annexed to the report, it will be seen that, while some of the crops inferior in value and amount, have remained nearly stationary, or perhaps slightly diminished, the great staple products of agriculture have steadily increased; thus furnishing, as usual, ample provision for domestic consumption, and an additional surplus for exportation. It will be perceived that the corn and sugar crops have largely increased since the last estimates of this office were submitted to Congress, which was for 1845. The wheat, cotton, potatoe, rice, tobacco, and oats crops, have not increased so rapidly, although they exhibit a very satisfactory addition to their aggregate amounts. On the whole, the husbandman has reason for gratitude to Providence for the additional abundance which it has during the past year beneficently bestowed upon him.

The season which has just passed has been generally favorable to the growth and maturing of the maize crop, but not so favorable for wheat. The former crop requires hot and comparatively dry weather, while a more humid atmosphere, and cooler temperature are more favorable to the growth and development of wheat.—Therefore when the season is less favorable for one crop, it is more so for the other. And thus, while one crop may partially fail from causes adverse to its growth, the other is sure to be benefitted and increased by the very same causes; thereby securing ample provision against famine or dearth, unless sent by special visitation of Providence.

It should not, however, be forgotten that one great source of supply for human food has been mysteriously and alarmingly smitten. For some years the potatoe has been visited with a malady, the cause and remedy of which, it has baffled the sagacity of man to discover. Although almost innumerable theories have been advanced to account for the plague which has seized upon the potatoe, the secret still remains hidden from the scrutiny of human intelligence. The disease progresses both in this country and in Europe, threatening the entire destruction of that important article of food for man and beast, and when and where its destructive course shall be stayed, belongs not to human wisdom or human effort to determine. While, from the abundance of other articles of sustenance, the partial loss of the potatoe crop has caused no suffering, and but little embarrassment, in this country, in other countries, its destruction has brought in its train a frightful amount of starvation and distress. The deprivation and suffering which it has inflicted on the people of other countries, have revealed the great resources of this, and demonstrated its capacity to supply the wants and demands of other nations to any extent which can be reasonably anticipated. It was, indeed, a spectacle grateful to humanity, and sublime to contemplate, to see our fertile and prolific country opening its rich stores of agricultural products to feed the famishing millions of other nations, and to arrest the strides of appalling and inexorable famine which was sweeping them by thousands to the grave; selling to those who had the means of purchasing, and generously giving, without money or price, to those who had not.

The quantity of grain of all kinds estimated in bushels, exported during the commercial year ending August 31, 1847, was 41,273,998 bushels. Of this quantity, 19,768,-579 bushels was wheat, and 20,690,664 bushels was Indian corn ; the remainder being rye, barley and oats.—And yet this large quantity sent to foreign countries, did not exhaust our surplus products by millions of bushels. On a tour through several of the States bordering on the great western lakes, during the last summer, the undersigned found the depots of grain, the remains of the crops of 1846, filled to overflowing, and all the avenues of transportation choked up with the immense quantities which were pouring through them to the Atlantic coast to seek markets abroad. It will not exceed the truth to say that the surplus of grain in this country, and particularly of maize, is sufficient to meet any demand which all the corn purchasing countries of Europe combined can make upon us under any probable circumstances.—The limits of supply beyond our own consumption, are, from the smallest quantity up to two hundred millions of bushels, if demanded by the wants of foreign nations.—The only difficulties to be encountered, would be the inadequate means of transportation from the interior to the coast, and ships to carry our surplus product across the Atlantic. Already the wheat crop equals 114,000,000 bushels, and the maize crop about 540,000,000. The former could, in the course of two or three years, be much increased, and the latter could be increased to the amount of more than 100,000,000 bushels, if the foreign demand should be sufficient to induce so great an expansion of that branch of agricultural production.

The quantity of grain imported into Great Britain in 1847, was 10,840,000 imperial quarters, or 86,720,000 bu. The exports of grain from this country during the same period, nearly equalled one-half of that amount, and most of it was carried to Great Britain and her dependencies. If returns, which are daily expected from Europe, shall be received in season, a full exposition of the corn trade between this country and that portion of the world, together with an estimate of the probable demands of Europe during the present year, will be made in one of the appendixes to this report.

An estimate of the value of the principal crops produced in the United States during the year 1847, will also be appended.

In surveying the agricultural productions of the Union, we are not only struck with their abundance, but with their great variety and value. Its territorial domain extends from the frigid regions of the north to the genial climate of the tropics, affording almost every variety of temperature, and every kind of grain and vegetable. In the north we have rich and abundant pasturage, giving forth the valuable products of the flock and dairy; in the middle and western regions of the Union, corn in all its varieties is produced in superabundant quantities; and in the south, rice, cotton and sugar grow luxuriantly; and nearly all in sufficient quantities to supply our domestic consumption, and furnish large surpluses for exportation, thus furnishing nearly all the value as well as bulk of our foreign commerce. When contemplating the extent and the value of its products, the number of persons engaged, and the capital employed, the agriculturist may well believe that agriculture is the great transcendent interest of the Union, upon which all other interests are dependent.

And he has equal reason to console himself with the honorable character and exalted dignity of the pursuit in which he is engaged. No occupation offers a greater field for experiment, and for the application of science directed by sound judgment. Experience has proved that every grain, vegetable, and fruit, is susceptible of improvement by scientific cultivation. Science and skill have converted the potatoe from a half poisonous root to a valuable article of human food. They have wrought the same magic transformations upon the apple, peach, and many other fruits and vegetables. Science investigates the nature of soils and manures, and developes the elements of plants, thus pointing out the means by which soil, manure, and plants may be adapted to each other, and more abundantly reward the labor and skill of the husbandman. And to crown all, genius stoops from its lofty flight to lessen the burthen of his toil, and mitigate the severity of his labors, by conferring upon him useful implements and valuable machines. Truly may agriculture be called the mother of the arts, the most honorable and the most prolific of good to the world, to which all arts pay grateful homage, and with which science itself seeks honorable association. May agriculture be ever cherished by the American citizen as the interest of his country greatest in honor, dignity, and importance, and constituting the very foundation of its independence, wealth and power.

A portion of the sum appropriated for agricultural purposes has been applied to the purchase of seeds for distributions; some of which are of new varieties, although not so many as desired. The interruption of the agricultural labors of this office in 1846, and the difficulty of establishing agencies abroad, by which new seeds could be obtained, have prevented the procuring of many from other countries. Yet the varieties which will be distributed are believed to be valuable, and worthy of introduction into those portions of the country in which they are not generally known and cultivated. The quantity distributed will more than equal that of any former year, and will exceed sixty thousand packages.

Tabular estimate of the Population and Crops of the different States, for 1847.

From the Annual Report of the Commissioner of Patents.

States.	Present estimated population.	No. bushels wheat.	No. bushels barley.	No. bushels oats.	No. bushels rye.	No. bushels buckwheat.	No. bushels Indian corn.	No. bushels potatoes.	No. tons hay.	No. pounds silk-cocoons.	No. pounds sugar.
Maine,	600,000	890,000	286,650	1,720,000	195,000	76,000	2,300,000	7,800,000	1,113,000	550	500,000
N. Hampshire,	300,000	610,000	129,150	2,100,000	460,000	169,000	2,280,000	4,655,000	606,000	880	2,225,000
Massachusetts,	850,000	256,000	170,100	2,000,000	620,000	138,000	3,411,000	4,308,000	682,000	4[illegible],000	530,000
Rhode Island,	130,000	4,500	54,000	210,000	50,000	4,500	800,000	730,000	71,000	960	
Connecticut,	330,000	125,000	28,000	1,810,000	1,200,000	480,000	3,180,000	2,832,000	550,000	200,000	45,000
Vermont,	302,000	664,000	55,000	3,905,000	350,000	330,000	2,100,000	7,086,000	1,250,000	8,000	10,500,000
New York,	2,780,000	14,500,000	3,931,000	26,200,000	3,650,000	3,660,000	16,000,000	24,000,000	3,800,000	5,000	12,800,000
New Jersey,	416,000	1,100,000	10,000	5,228,000	3,050,000	980,000	8,000,000	1,850,000	434,000	4,500	
Pennsylvania,	2,125,000	14,150,000	150,000	18,835,000	12,000,000	3,600,000	29,200,000	7,600,000	1,720,000	35,000	2,000,000
Delaware,	80,000	410,000	4,400	650,000	55,000	14,000	3,620,000	160,000	20,000	3,600	
Maryland,	495,000	4,960,000	2,900	1,86[illegible],900	975,000	115,000	8,300,000	900,000	125,000	7,900	
Virginia,	1,270,000	12,000,000	90,000	10,000,000	1,500,000	260,000	36,500,000	2,950,000	400,000	6,350	1,750,000
North Carolina,	765,000	2,350,000	4,000	3,507,000	235,000	18,000	25,000,000	2,600,000	136,000	6,200	15,000
South Carolina,	605,000	1,300,000	4,500	1,000,000	54,000		12,600,000	3,500,000	30,000	5,800	35,000
Georgia,	800,000	1,950,000	12,300	1,140,000	70,000		25,000,000	1,840,000	24,000	6,000	370,000
Alabama,	690,000	1,200,000	7,500	1,831,000	75,000		26,000,000	2,150,000	18,000	5,880	15,000
Mississippi,	640,000	500,000	2,000	1,378,000	23,000		16,000,000	2,050,000	800	250	
Louisiana,	470,000				2,200		9,000,000	1,300,000	27,000	1,200	275,000,000
Tennessee,	950,000	8,750,000	6,500	9,918,000	390,000	28,000	74,000,000	2,700,000	45,000	2[illegible],000	530,000
Kentucky,	855,000	6,000,000	18,000	14,100,000	2,650,000	16,000	62,000,000	1,810,000	130,000	4,400	3,000,000
Ohio,	1,850,000	16,800,000	240,000	26,500,000	1,000,000	1,200,000	66,000,000	4,644,000	1,400,000	35,000	5,000,000
Indiana,	960,000	7,500,000	39,000	15,290,000	250,000	100,000	38,000,000	2,350,000	385,000	800	6,400,000
Illinois,	735,000	4,900,000	116,000	4,200,000	155,000	120,000	33,000,000	2,100,000	365,000	3,200	615,000
Missouri,	600,000	1,750,000	13,000	6,020,000	86,000	25,000	25,000,000	1,050,000	80,000	230	500,000
Arkansas,	152,400	200,000	1,000	440,000	10,000		7,000,000	520,000	1,100	260	5,500
Michigan,	370,000	8,000,000	210,000	5,500,000	90,000	290,000	6,500,000	4,980,000	260,000	1,500	3,260,000
Florida,	75,000			10,000			1,000,000	350,000	1,200	500	300,000
Wisconsin,	215,000	1,200,000	30,000	1,500,000	8,000	30,000	1,000,000	1,080,000	95,000	40	350,000
Iowa,	130,000	1,000,000	35,000	1,000,000	12,000	20,000	2,900,000	850,000	40,000		175,000
Texas,	140,000	1,110,000					1,500,000	200,000			20,000
District Columbia,	46,000	16,000		15,000	7,500		45,000	20,000	1,800	600	
Oregon,	20,000	50,000					525,000				
	20,746,400	114,245,500	5,649,950	167,867,000	29,222,700	11,673,500	539,350,000	100,965,000	13,819,900	404,600	324,940,500

Dairy Farming--Cows.

The following remarks should have been appended to the essay of Mr. Fish in our paper, of June 1st. but were omitted for want of room:

Having previously written at considerable length upon *general treatment, adaption of food* I shall not here go into a lengthy detail, but a few hints may not be inappropriate. The success of dairy men (like grain growers) depends much upon adapting their practice to the provisions of nature. Cows should be in a condition to yield the greatest flow of milk, upon the cheapest and most spontaneous production from the earth, maize, mangle wurtzel, cabbage, carrots, and ruta bagas (of the cultivated crops) yield the largest product per acre, and from the varied periods at which they arrive at maturity, are well calculated to protract the flowing of milk till late in the season. Those most perishable to be used first. It is proved by experiments, that a cow will give the most milk from the same amount of food, during the first sixty days after gestation begins. My cows yielded 45 lbs. milk per day the first of March on 25 lbs. of good hay and 4 quarts of provender in slops. The first of June diminished in quantity, and the first of November on same feed, gave only 20 lbs. per day. Other cows of equal quality coming in from the middle of April to the first of May gave, on the first of June 55 lbs. of milk on grass only, and held a good flow of milk through the season. On the first of December they gave 20 lbs. of milk each, while those in milk the first of March were nearly dry, upon the same feed, proving conclusively, that cows in general, will yield more and better milk from first of May to January, than from first of March to January. The months of March and April require much more labor and grain feed, that would otherwise turn to money. *Nature* provides in *spring time* a principle of *general progressiveness* in the animal and vegetable kingdom The thriftiest growth of spontaneous product is in May and June, and cows should then be in a condition to receive its aid.

If seed of a spring crop is sown too early, the crop will be stinted; so with cows that calve in February and March. Nature having made its master effort in the animal economy, it cannot be revived again in spring time of vegetation, and in the fall, when farmers have more or less of coarse perishable food, like pumpkins apples, etc. they are not in as good condition to yield milk as when they are started late, and their flowing is kept up by sowed corn or other succulent food.

I realized the greatest nett product of cheese in my dairy in 1844 and 1845. Commencing April 20th with half my cows in milk, average yield in 1844, 700 pounds per cow market weight. In 1845, average yield 775 pounds per cow, weighed daily from the press, averaging five pounds per cow per day during the first five months. Less grain was required to keep their flowing of milk the five months, than in the months of March and April, when commencing on the tenth of March.

No *one kind of grass* or other food is found to produce as much *or as good* milk, as good pasture upon soil yielding a great variety of grasses, each maturing at different periods, and furnishing in their turn the *flower of feed*, from which the finest flavor of butter and cheese is derived. Such soils are prevalent in this county, where the land is elevated and not over worn with tillage. Low, marshy grounds, and those having a northern or northwestern descent are exceptions.

A difference of from 5 to 10 per cent is frequently shown by the lactometer in the quality of milk from neighboring dairies, the proof being in favor of those *best fed and husbanded*. The practice is prevalent among dairymen of pasturing the low, wet and shady portions of their farms, [if they have such,] and using for meadows the more aired portions. In some such locations, it is impossible to make a fine flavored cheese. The curd works *tough* and stubborn, and cheese is invariably of a harsh rank flavor. If this practice should be reversed, and the low lands used for meadows, and the elevated, warmer portions grazed, I have no doubt a great improvement would be made in our dairy products.

More care is required in working curd where whey and grain is fed than when cows are grazed, as the milk is richer, and cheese more apt to be harsh flavored; when cows *are in heat*, their milk should not be put with the rest, till thoroughly cooled. It is often *rank and bitter*, and will sour in a few hours. If cows eat salt largely, beware of soft leaky cheese; it retards the effect of rennet to decompose. Salt should lay by the cows that they may take a little daily. Corn sowed *in drills* will produce more milk, arising from the cultivation and effect of sun and air. If fed when too old, it is not succulent and will dry up the milk.

From the Horticulturist.

Profits of Fruit Growing--No. 2.

When so many farmers are complaining of small profits, we think it proper to say a little more on the profits of fruit growing.

Charles Dubois, of Fishkill landing, Dutchess county, N. Y., has taken thirty-three dollars for the fruit grown on one Frost Gage Plum Tree in one season; and last season received ninety dollars for the crop of apricots from one tree.

A lady of Kensington, Pa., has received seventy dollars in a season from one apricot tree.

A gardener, near Boston, has produced eight thousand quarts of strawberries to the acre, and received twenty cents per quart for them,—thus realizing sixteen hundred dollars per acre.

An acre of raspberries on Long Island has produced nine hundred dollars worth of fruit in a season. The expense of cultivating, picking the fruit, and taking it to market was one hundred and fifty-seven dollars,—leaving a handsome nett profit of seven hundred and forty-three dollars; a larger sum than thousands of farmers realise from a farm of an hundred acres.

Mr. Zieber of Reading, Pa., has made forty-two gallons of pure grape juice wine from one Isabella vine in a season, worth, when one year old, one dollar and fifty cents per gallon—or sixty-three dollars; being the interest on one thousand and fifty dollars.

An apple orchard of one acre, principally of the Rhode Island Greening, in Wayne county, N. Y., produced two hundred barrels of selected fruit in '47. Another orchard, of three and one-half acres, produced six hundred and fifty barrels. Although the fruit was sold at extremely low prices—being so far in the interior of New-York—yet the nett proceeds were one hundred dollars per acre. In the vicinity of Philadelphia, such a crop of fruit would have paid a nett profit of three hundred dollars per acre.

John G. Gardner of Nantucket, Mass., has produced the cultivated cranberry three hundred and twenty bushels to the acre, and found ready sale at four dollars per bushel; thus realising twelve hundred and eight dollars per acre.

Many persons will say—"Well, large profits may be obtained on a small scale, but nothing can be done on a large scale."

We happen, just now, to think of some large operations in fruit culture. Major Reybold, of Delaware, together with his sons and sons-in-law, own a number of farms, and have about a thousand acres in peach orchards. They think nothing of sending five thousand baskets of peaches to market per day, for some weeks, and are supposed to have realised, last season, forty thousand dollars clear of all expenses.

Robert L. Pell of Pelham, Ulster county, N. Y., is known to have raised, for several years past, four thousand barrels of Newtown Pippin Apples per year; and what he chooses to sell in New-York city, will always command six dollars per barrel. Those he sends to London have sometimes sold [at retail] as high as twenty-one dollars per barrel. Last season Mr. Pell's crop was ten thousand barrels.* Suppose, for argument's sake, that one-third of this amount is swallowed up in expenses, there is still left the handsome sum of forty thousand dollars.

Dr. R. T. Underhill, of New-York, has a vineyard of twenty acres of Isabella and Catawba grape vines at Croton Point, on the Hudson river. It is a well known fact, that some thousands of baskets of grapes, from this vineyard, are annually sent to New-York, and find ready sale at nine dollars per hundred pounds.

The doctor says there ought to be started a hundred vineyards immediately as large as his; and we coincide with him. New-York city, with Brooklyn and Williamsburg, is half as large as Paris; and in this latter city, ten million pounds of table grapes are consumed yearly.

You will, I think, be surprised to hear that many wealthy farmers, near Philadelphia, buy their apples yearly,—this year, at one dollar per bushel; and this, too, when they acknowledge that feeding cattle and rais-

[* We know the apple crop at the Pelham farm, last season, was an enormously large one, but we presume our correspondent's estimate of that crop is only an estimate, and not a precisely ascertained amount. We endeavored to obtain an exact account of the product of this really great orchard for 1847, but without success.—Editor.]

ing grain does not pay more than three per ct. on the capital invested in farming. Some of them mean well; they have *intended* to plant out trees every year for the last twenty years! B. G. Boswell.

Philadelphia, Feb. 14, 1848.

A Plea for the Birds.

Friend Bateham:—As I am no Ornithologist, and this being the first article I ever penned for an agricultural paper, it will not be expected that I should talk learnedly. But as the time of cherries has arrived, I have a mind to put in my "plea" for the lives of the feathered songsters of the orchard and the shrubbery. Many of our farmers and orchardists pursue these winged inhabitants of the air to the death with gun and snare. This course is as unwise and impolitic as it is wanton and cruel. What if they should chance to grub up a few spears of corn, or pluck a few cherries, or pick now and then a choice summer apple; must a war of extermination be waged against them for this?

And now, dear *Cultivator*, allow me to drop a few hints and give a little inkling of my experience in the bird line, for the benefit of the bird-haters who may chance to read them. In common with other exterminators of the feathered tribe, time was when I destroyed, indiscriminately, robin, sparrow, crossbill, catbird, woodpecker, jay, or whatever other bird chanced to light in my cherry trees. This was quite a tax upon my time and my purse; but what was worse, I found in the course of a few years, that my orchard was suffering exceedingly from worms and insects. My apples were wormy and knotty, and many of my trees decayed. That though I saved some of my cherries, I lost my apples and my trees. So from motives less of humanity than of interest, I ceased my hostility to all the birds except woodpeckers. These I continued to destroy until I found it cost more to kill them than the cherries were worth which they ate; and now for the last three or four years I have not disturbed a feather of them. I even let them nest in my cherry trees; and I find I have cherries enough for them and myself too. The consequence is, my orchard and its products have greatly improved: and now that I have got a little out of the martial spirit, I find that the course I pursued for a time was heartless and cruel; and I would not now destroy the life of *one* bird for all the cherries on my trees.

And now a word about the depredations of black birds on cornfields. My fields lie contiguous to a swamp where they nest in considerable numbers, and I believe there has not been a spear of corn pulled up by them this season; and what is more, not a hill destroyed by grubs. I do not allow the birds to be frightened in any way; and they are so tame as to come within a few feet of me and pick up the worms and beetles turned up by the plow and the cultivator, and I wish there were ten to where there is one about my fields. Well, the reason why they do not disturb my corn as they do that of many of my more distant neighbors, is simply this: There is always a last as well as a first in getting in crops. I try to be among the *first*. It is well known to every observant farmer, that birds will always resort to the most recently plowed fields. So that while my corn is at an age most liable to be disturbed by birds, some of my neighbors are plowing, and this attracts the birds from my fields for a season, and as soon as I commence working my corn, which frequently happens about the time theirs is coming up, the birds are again diverted from their fields to mine. Thus we are mutually benefited by early and late planting. But it is not necessary for some to plant early and others late, to secure this result. Should my slack neighbors (as is sometimes the case,) bestir themselves and plant as soon or sooner than I do, my resource in this case is to commence breaking up summer fallow immediately, whither I am followed by the birds.

Now, my object in giving a little of my experience in these matters, is two fold, first, to benefit my brother farmers; and, secondly, to save the lives of their best friends—the birds. A. L. B.

Apple-Tree Cottage,
Morrow co., 6 mo. 5, 1848.

Honey Bees.

Certain persons in this county, are making money by producing artificial swarms of bees at one dollar for each swarm produced. They attempt to veil the subject in mystery

Was the process a discovery of any of these persons, we would say go ahead gentlemen—do what you can and make what you can by your discovery and genius. But it is not so. It is a species of "Book Farming," which they have learned from Books, and therefore it is not—should not—and shall not be used as a recent valuable discovery if we can make the matter understood.

Artificial Swarming, consists merely in taking a piece of comb containing young bees *about three days old*—fixing this comb in a clean hive and then collecting by means of a quill or brush and saucer, at least one-half of the bees belonging to the hive from which the comb was taken and placing them in the hive containing the newly cut comb. This is all that is necessary to produce a good active swarm of bees, which will do as well at least as those left behind, some pretend that a particular kind of comb should and must be taken for this purpose, for instance, comb containing royal cells. It is a mere pretence; any comb containing bees of the age above mentioned will do.

Another Process.—Take the Queen Bee, and secure her—then drive more than half the Bees in the hive into another hive—remove it some distance and then put the Queen in, or if less than half are taken, remove the old hive to some other place and let the new one occupy the place of the old one, so that the absent workers, as they may return from their labors may recognize their old queen and remain with her.—*Morgan Chronicle.*

OHIO CULTIVATOR.

COLUMBUS, OHIO, JULY 1, 1848.

Delay.—Absence of the editor during the past two weeks, will account for a little delay in issuing this number; also for any lack of original articles that may be discovered, and the omission of one or two communications.

We reached home one day after our time for going to press, and the printers having sufficient matter in type, we have only room to crowd in a few lines of editorial.

The Editress begs pardon of her readers for the omission of the Housewife's Department, in this number. Being at home again, she hopes to be able to fill her page acceptably hereafter, with the help of friendly contributors.

Our Trip North--The Crops, &c.

During the past sixteen days, we have passed through portions of eighteen counties of this State, mostly in the northern and eastern portions; namely, Delaware, Morrow, Richland, Ashland, Lorain, Cuyahoga, Lake, Geauga, Ashtabula, Trumbull, Mahoning, Columbiana, Carroll, Tuscarawas, Coshocton, Muskingum, Licking, and Franklin. We had not time to call on many of our readers, and cannot at this time speak of things seen or learned during our trip, excepting a word or two about the crops.

The wheat crop, in all of the counties where wheat is a staple, is remarkably fine—as good as that of 1846—and in some counties better. In the eastern part of the Western Reserve, say the counties of Lake, Geauga, Ashtabula, and Trumbull, the crop this year will perhaps be less than in '46, owing to the small quantity sown, and the injury done by the fly. For several years past the injury from this cause has been so great, that farmers are becoming discouraged in regard to this crop. These counties were never largely devoted to wheat growing.

On our way home we found the fields beautifully yellow for the harvest, in Columbiana, and Tuscarawas, and in Muskingum and Licking the farmers were busy at the work of harvesting. The straw is remarkably bright, and the grain plump and handsome, excepting an occasional field where the ground is too moist and rich.

The corn crop is, in most parts, rather backward, but presents a fair average prospect.

Grass, on the Reserve, is not generally heavy, the dry weather in April and May having affected it injuriously. It has improved of late, however, and the hay crop will not be a bad one. In some of the eastern counties it will be quite heavy.

Potatoes, at the present time, give fair promise of a healthy crop, especially where planted early.

Fruit is generally abundant. Even peaches seem to promise a fair yield nearly all over the State. Great injury is being done to fruit trees, on the Reserve especially, by the *Rose Bugs*. We shall speak of this and other matters in our next.

The Weather has been quite dry and pretty warm in these parts of late. Had a fine rain Sunday, July 2d.

Sales of Stock at Buffalo.—We invite attention to the advertisement of L. F. Allen, Esq., on our last page. Mr. L is well known as an importer and breeder of superior cattle, and we are confident that his stock will not disappoint purchasers. The Fair at Buffalo will attract a large concourse of farmers, and afford a favorable opportunity for the purchase or sale of choice cattle, &c.

Seed Wheat.—We are not able at this time to answer the inquiries about the price, &c., of the "Reed Straw" and "Improved Flint," varieties of wheat raised in this vicinity. We will do so in our next, and attend to orders from any of our subscribers.

Wool.—Some fine specimens will be noticed in our next. The engravings referred to in our last were not made in time for this number.

Several Publications will be noticed in our next—we have had no time for reading for some weeks past.

Pipe for Water Rams.—The cost of ½ inch lead pipe, suitable for Water Rams, we find, is 6 to 7 cents per foot at Cincinnati, not 4 to 5 cents as previously stated in this paper. Our former statement was based on the price it was selling at in Philadelphia, when we were there in May, which was lower than usual.

"The Horticulturist."—This excellent magazine commences a new volume with the present month. See prospectus on last page. Several valuable articles from its pages will be found in this number of our paper. We heartily commend the work to our horticultural readers.

J. S. Skinner is about to commence a new agricultural and mechanical Journal, at Philadelphia, to be called, "*The Plow, Loom, and Anvil.*" The Farmers' Library, at New York, having just completed its third year, is discontinued. The Farmers' Cabinet, (at Phil'a) is also discontinued.

English News, to June 10th, represents the prospects of the crops as highly favorable; and owing to this cause, together with continued political agitation, trade is quite dull and prices low. Grain and flour have declined slightly. American provisions are in fair demand. The news from the continent is still of a very warlike character.

Russia Turnips.—The communication on this subject was not received in time to be of use this year. The variety has been long known to us by the name of French Turnip. It is a good kind for table or for stock when well grown, but we think it is an uncertain crop.

Common English Turnips should be sown the latter part of this month, or the first week in August.

Seed of the Mahaleb Cherry.—An inquirer is informed that this is a foreign variety of wild cherry recently brought into notice by French and German nurserymen as valuable for stocks for making dwarf cherry trees. No seeds of it are to be had, we presume, in this country as yet. The young stocks are imported by some of the eastern nurserymen.

Cheat or Chess.—Last year it was said, the wheat sown had turned to cheat; this year, a large portion of the Timothy has disappeared in its place. We saw, last week, in a circuit of fifty miles, more cheat than we have seen before during our entire life time. Where this can be done, the cheat should be thrashed and ground for hogs.

Let some clean Timothy seed be cut, and as soon as it will thrash, sow it in the chaff on the sod in August. It will take better if the ground be first well harrowed. We have a beautiful crop of Timothy, sown last August, on an old white clover sod without harrowing.—*Morgan Chron.*

Harvest Drinks.—Molasses and water, or vinegar and water, will quench thirst better than whiskey or other liquors. If the water is bad, put in a little ginger. Never drink largely of cold milk or buttermilk immediately after severe exercise.—*Ib.*

A Venerable Horse.—The Ploughman states that Mr. John Wales, of North Bridgewater, drove to Boston, last week, a horse thirty-eight years old. He works now with good spirit. He is probably the oldest working horse in this vicinity.

Culture of Fruit Trees--Science of Special Manures.

Those of our readers who have read with care the address of Professor J. P. Norton, contained in the last two numbers of this paper, will be prepared to understand and appreciate the following highly useful instructions taken from late numbers of Downing's Horticulturist, on *the science of* SPECIAL MANURES as applied to the culture of fruit trees. In conversation a few weeks since with Dr. Kirtland, of Cleveland, the well known pomologist the expressed in warm terms the high estimate he placed on these discoveries of science, and said he was convinced that the instructions afforded thereby would be regarded by all skillful cultivators as forming a NEW ERA in the art of fruit cultivation. He had for several years practised in part the lessons taught by these analyses, and had witnessed the most favorable results. Many other experiments might be alluded to as confirming the truth of the theories here laid down. We say therefore to all intelligent fruit growers, read and reflect on the following articles:

From the Horticulturist for January 1848.

THE CULTURE OF THE SOIL may be viewed in two very different aspects. In one, it is a moral servitude, which man is condemned to pay to fields perpetually doomed to bear thorns and thistles. It is an unmeaning routine of planting and sowing, to earn bread enough to satisfy the hunger and cover the nakedness of the race. And it is performed in this light, by the servants of the soil, in a routine as simple, and with a spirit scarcely more intelligent than that of the beasts which draw the plow that tears open the bosom of a hard and ungenial earth!

What is the other aspect in which agriculture may be viewed? Very different indeed. It is an employment at once the most natural, noble and independent that can engage the energies of man. It brings the whole earth into subjection. It transforms unproductive tracts into fruitful fields and gardens. It raises man out of the uncertain and wild life of the fisher and hunter, into that where all the best institutions of society have their birth. It is the mother of all the arts, all the commerce, and all the industrial employments that maintain the civilization of the world. It is full of the most profound physical wonders, and involves an insight into the whole history of the planet, and the hidden laws that govern that most common and palpable, and yet most wonderful and incomprehensible substance—matter! There has never yet lived one who has been philosopher enough to penetrate farther than the outer vestibules of i's great temples of truth; and there are mysteries enough yet unexplained in that every day miracle, the growth of an acorn, to excite for ages the attention and admiration of the most profound worshipper of God's works.

Fortunately for us and for our age, too much light has already dawned upon us to allow intelligent men ever to relapse into any such degrading view of the aim and rights of the cultivator as that first presented. We have too generally ascertained the value of science, imperfect as it still is, applied to farming and gardening, to be contented any more to go back to that condition of things when a crooked tree was used for a plow, and nuts and wild berries were sufficint to satisfy the rude appetite of man. The natural sciences have lately opened new revelations to us of the hidden problems of growth, nutrition and decay, in the vegetable and animal kingdoms. Secrets have been laid bare that give us a new key to power, in our attempts to gain the mastery over matter, and we are continually on the alert to verify and put in practice our newly acquired knowledge, or to add in every possible way to the old stock. Men are no longer contented to reap short crops from worn out soil. They look for scientific means of renovating it. They would make the earth do its utmost. Agriculture is thus losing its old character of being merely physical drudgery, and is rapidly becoming a science, full of profound interest, as well as a grand practical art, which, Atlas-like, bears the burden of the world on its back.

It is not to be denied that CHEMISTRY is the great railroad which has lately been opened, graded and partially set in operation, to facilitate progress through that wide and comparatively unexplored territory—*scientific cultivation:* chemistry, which has scrutinised and analysed till she has made many things, formerly doubtful and hidden, as clear as noon-day. And it is by watching her movements closely, by testing her theories by practice, by seizing every valuable suggestion, and working out her problems patiently and fairly, that the cultivator is mainly to hope for progress in the future.

No one who applies his reasoning powers to the subject will fail to see, also, how many interesting points are yet in obscurity; how many important facts are only just beginning to dawn upon the patient investigator; how much is yet to be learned only by repeated experiments; and how many fail who expect to get *immediate* replies from nature, to questions whose satisfactory solution must depend upon u variety of preliminary knowledge, only to be gathered slowly and patiently, by those who are unceasing in their devotion to her teachings.

There are no means of calculating how much chemistry has done for agriculture within the last ten years. We say this, not in the sanguine spirit of one who reads a volume of agricultural chemistry for the first time, and imagines that by the application of a few salts he can directly change barren fields into fertile bottoms, and raise 100 bushels of corn where 20 grew before. But we say it after no little observation of the results of experimental farming—full of failures and errors, with only occasional examples of brilliant success—as it is.

There are numbers of readers who, seeing the partial operations of nature laid bare, imagine that the whole secret of assimilation is discovered, and by taking too short a route to the end in view, they destroy all. They may be likened to those intellectual sluggards who are captivated by certain *easy roads to learning*, the gates of which are kept by those who teach every branch of human wisdom in *six lessons!* This gallop into the futurity of laborious effort, generally produces a giddiness that is almost equivalent to the obliteration of all one's power of discernment. And though one may, now, by the aid of magnetism, "put a girdle round the earth" in less than "*forty minutes*," there are still conditions of nature that imperiously demand time and space.

Granting, therefore, that there are hundreds who have failed in the experiments with agricultural chemistry, still we contend that there are a few of the more skilful and thorough experimenters who have been eminently successful; and *whose success will gradually form the basis of a new and improved system of agriculture.*

More than this, the attention which has been drawn to the value of careful and intelligent culture, is producing indirectly the most valuable results. Twenty years ago not one person in ten thousand, cultivating the land, among us, thought of any other means of enriching it than that of supplying it with barn-yard manure. At the present moment there is not an intelligent farmer in the country who is not conversant with the economy and value of muck, ashes, lime, marl, bones and a number of less important fertilizers. In all the older and less fertile parts of the country, where manure is no longer cheap, the use of these fertilizers has enabled agriculturists of limited means to keep their land in high condition, and add thirty per cent. to their crops. And any one who will take the trouble to examine into the matter in our principal cities, will find that fifty articles, in the aggregate of enormous value for manure to the farmer and gardener, which were until lately entirely thrown away, are now preserved, are articles of commerce, and are all turned to the utmost account as food for the crops.

We have been led into this train of thought by observing that after the great staple of the agriculturist—bread stuffs and the grasses—have had that first attention at the hands of the chemist which they so eminently deserve, some investigation is now going on for the benefit of the horticulturist and the orchardist, of which it is our duty to keep our readers informed. We allude to the analyses which have been made of the composition of the inorganic parts of vegetables, and more especially of some of the *fruit trees* whose culture is becoming an object of so much importance to this country.

We think no one at all familiar with modern chemistry or scientific agriculture, can for a moment deny the value of *specific manures.* It is the great platform upon which the scientific culture of the present day stands, and which raises it so high above the old empirical routine of the last century. But in order to be able to make practical application, with any tolerable chance of success, of the doctrine of special manures, we must have before us careful analyses of the composition of the plants we propose to cultivate. Science has proved to us that there are substances which are of universal value as food for plants; but it is now no less certain that, as the composition of different plants, and even different species of plants, differs very widely, so must certain substances essential to the growth of the plant be present in the soil, or that growth is feeble and imperfect.

A little observation will satisfy any careful inquirer, that but little is yet practically known of the proper made of *manuring orchards*, and rendering them uniformly productive. To say that in almost every neighborhood, orchards will be found which bear large crops of fine fruit, while others not half a mile off, produce only small crops; that in one part of the country a given kind of fruit is always large and fair, and in another it is always spotted and defective; that barn-yard manure seems to produce but little effect in remedying these evils; that orchards often nearly cease bearing while yet the trees are in full maturity, and by no means in a worn out or dying condition: to say all this, is only to repeat what every experienced cultivator of orchards is familiar with, but for which few or no practical cultivators have the explanation ready.

We have seen a heavy application of common manure made to apple trees, which were in this inexplicable condition of bearing no sound fruit, without producing any good effects. The trees grew more luxuriantly, but the fruit was still knotty and inferior. In this state of things, the baffled practical man, very properly attributes it to some inherent defect in the soil, and looks to the chemist for aid.

We are glad to be able to say, this aid is forthcoming. Many valuable analyses of the *ashes* of trees and plants, have been made lately at *Giessen*, and may be found in the appendix to the *last edition* of LIEBIG'S *Agricultural Chemistry.* And still more recently, Dr. EMMONS of Albany, well known by his labors in the cause of scientific agriculture,* has devoted considerable time and attention to ascertaining the elements which enter into the composition of the *inorganic parts of trees.*

The result of this investigation we consider of the highest importance to the fruit cultivator and the orchardist. In fact, though still imperfect, it clears up many difficult points, and gives us some basis for a more philosophical system of manuring orchards than has prevailed.

The importance of the gaseous and more soluble manures—ammonia, nitrogen, etc., to the whole vegetable kingdom, has long been pretty thoroughly appreciated. The old-fashioned, practical man, dating from Noah's time, who stands by his well-rotted barn-yard compost, and the new-school disciple, who uses guano and liquid manures, are both ready witnesses to prove the universal and vital importance of these animal fertilizers,—manures that accelerate the growth and give volume and bulk to every part of a tree or plant.

But the value and importance of the heavier and more insoluble earthy elements have often been disputed, and, though ably demonstrated of late, there are still comparatively few who understand their application, or who have any clear and definite ideas of their value in the economy of vegetable structure.

To get at the exact quantities of these ingredients which enter into the composition of plants, it is necessary to analyse their *ashes.*

It is not our purpose, at the present moment, to go beyond the limits of the orchard. We shall therefore confine ourselves to the most important elements which make up the wood and bark of the *apple*, and *pear*, and the *grape vine.*

According to Dr. EMMONS'S analysis, in 100 parts of the ashes of the *sap-wood* of the apple tree, there are three elements that greatly preponderate, as follows: 16 parts *potash*, 17 parts *phosphate of lime*, and 18 parts *lime.* In the *bark* of this tree, there are 4 parts *potash* and 51 parts *lime.*

100 parts of the ashes of the sap-wood of the *pear* tree, show 22 parts of *potash*, 27 parts of phosphate of lime, and 12 parts of lime; the bark giving 6 parts of potash, 6 parts of phosphate, and 30 parts of lime.

The analysis of the common wild *grape vine*, shows 20 parts of *potash*, 15 parts *phosphate of lime*, and 17 parts *lime* to every 100 parts; the bark giving 1 part *potash*, 5 parts *phosphate of lime*, and 39 parts of *lime.*

The following are Dr. Emmon's exact analyses:

ASH OF THE PEAR.

	Sap-wood.	*Bark.*
Potash,	22.25	6.20
Soda,	1.84	
Chlorine,	0.31	1.70
Sulphuric acid,	0.50	1.80
Phosphate of lime,	27.22	6.50
Phosphate of peroxide of iron,	0.31	
Carbonic acid,	27.69	37.29
Lime,	12.64	30.36
Magnesia,	3.00	9.40
Silex,	0.30	0.40
Coal,	0.17	0.65
Organic matter,	4.02	4.20
	100.25	98.30

ASH OF THE APPLE.

	Sap-wood.	*Bark.*
Potash,	16.19	4.930
Soda,	3.11	3.285
Chloride of sodium,	0.42	0.540
Sulphate of lime,	0.05	0.637
Phosphate of peroxide of iron,	0.80	0.375
Phosphate of lime,	17.50	2.425
Phosphate of magnesia,	0.20	
Carbonic acid,	29.10	44.830
Lime,	18.63	51.578
Magnesia,	8.40	0.150
Silica,	0 85	0.200
Soluble silica,	0.80	0.400
Organic matter,	4.60	2.100
	100.65	109.450

COMMON WILD GRAPE VINE.

	Wood.	*Bark.*
Potash,	20.84	1.77
Soda,	2.06	0.27
Chlorine,	0.02	0.40
Sulphuric acid,	0.23	trace.
Phosphate of lime,	15.40	5.04
Phosphate of peroxide of iron,	1.20	5.04
Carbonic acid,	34.83	32.22
Lime,	17.33	39.32
Magnesia,	4.40	0.80
Silex,	2.80	14.00
Soluble silica,	0.00	0.30
Coal and organic matter,	2.20	1.70
	100.21	100 86

Now, no intelligent cultivator can examine these results without being conscious at a glance, that this large necessity existing in these fruit trees for *potash, phosphate of lime,* and *lime,* is not at all provided for by the common system of manuring orchards. Hence, in certain soils where a part or all of these elements naturally exist, we see both the finest fruit and extraordinary productiveness in the orchards. In other soils, well suited perhaps for many other crops, orchards languish and are found unprofitable.

More than this, Dr. Emmons has pointed out what is perhaps known to few of our readers, that these inorganic substances form, as it were, the skeleton or bones of all vegetables as they do more tangibly in animals. The bones of animals are lime—in the form of phosphate and carbonate—and the frailer net-work skeleton of trunk, leaves and fibres in plants, is formed of precisely the same substance. The bark, the veins and nerves of the leaves, the skin of fruit, are all formed upon a framework of this organized salt of lime, which, in the growth of the plant, is taken up from the soil, and circulates freely to the outer extremities of the tree or plant in all directions.

As these elements, which we have named as forming so large a part of the ashes of plants, are found in animal manures, the latter are quite sufficient in soils where they are not naturally deficient. But, on the other hand, where the soil is wanting in lime, potash, and phosphate of lime, common manures will not and do not answer the purpose. Experience has abundantly proved the latter position; and science has at length pointed out the cause of the failure.

The remedy is simple enough. Lime, potash and bones (which latter abound in the phosphate,) are cheap materials, easily obtained in any part of the country. If they are not at hand, common *wood ashes,* which contains all of them, is an easy substitute, and one which may be used in much larger quantities than it is commonly applied, with the most decided benefit to all fruit trees.

The more scientific cultivator of fruit will not fail, however, to observe that there is a very marked difference in the proportion of these inorganic matters in the ashes of the trees under our notice. Thus, potash and phosphate of lime enter much more largely into the composition of the pear than they do in that of the apple tree; while lime is much more abundant in the apple than in the pear; the ashes of the bark of the apple tree being more *than half lime.* Potash and lime are also found to be the predominant elements of the inorganic structure of the grape vine.

Hence *potash* and *bone dust* will be the principal substances to nourish the structure of the pear tree; *lime,* the principal substance for the apple; and *potash* for the grape vine; though each of the others are also highly essential.

Since these salts of lime penetrate to the remotest extremities of the tree; since, indeed, they are the foundation upon which a healthy structure of all the other parts must rest, it appears to us a rational deduction that upon their presence, in sufficient quantity, must depend largely the general healthy condition of the leaves and fruit. Hence, it is not unlikely that certain diseases of fruit, known as the bitter rot in apples, the mildew in grapes, and "cracking" in pears, known and confined to certain districts of the country, may arise from a deficiency of these inorganic elements in the soil of those districts, (not overlooking *sulphate of iron,* so marked in its effect on the health of foliage.) Careful experiment will determine this: and if such should prove to be the case, one of the greatest obstacles to universal orchard culture will be easily removed.*

What we have here endeavored to convey of the importance of certain specific manures for fruit trees, is by no means all theory. We could already give numerous practical illustrations to fortify it. Two will perhaps suffice for the present.

The greatest orchard in America, most undeniably, is that at Pelham farm, on the Hudson. How many barrels of apples are raised there annually, we are not informed. But we do know, first, that the crop this season, numbered *several thousand barrels* of Newtown pippins, of a size, flavor and beauty that we never saw surpassed; and second, that the Pelham Newtown pippins are as well known in Covent garden market, London, as a Bank of England note, and can as readily be turned into cash, with the highest premium over any other goods and chattels of the like description. Now the great secret of the orchard culture at the Pelham farm, is the *abundant use of lime.* Not that high culture and plenty of other necessary food are wanting; but that lime is the great basis of large crops and smooth, high flavored fruit.

* It will be remembered that, in our work on Fruits, we opposed the theory that all the old pears, liable to crack along the sea coast, and in some other sections of the country, were "worn out." We attributed their apparent decline to unfavorable soil, injudicious culture and ungenial climate. A good deal of observation since those views were published, has convinced us that "cracking" in the pear is to be attributed more to an exhaustion, or a want of, certain necessary elements in the soil, than to any other cause. Age has little or nothing to do with it, since *Van Mon's Leon Le Clerc,* one of the newest and most vigorous of pears, has cracked in some soils for the past two years around Boston, though perfectly fair in other soils there, and in the interior.

Again, the greatest difficulty in fruit culture in America, is to grow the foreign grape in the open air. It is not heat nor fertility that is wanting, for one section or another of the country can give both these in perfection; but in all sections the fruit mildews, and is, on the whole nearly worthless. An intelligent cultivator, living in a warm and genial corner of Canada West, (bordering on the western part of Lake Erie,) had been more than usually successful for several seasons in maturing several varieties of foreign grapes in the open air. At length they began to fail—even upon the young vines, and the mildew made its appearance to render nearly the whole crop worthless. Last season, this gentleman, following a hint in this journal, gave one of his grape borders a *heavy dressing of wood ashes.* These ashes contained, of course, both the potash and the lime, so necessary to the grape. He had the satisfaction of raising, this season, a crop of fair and excellent grapes, (of which we had ocular proof,) from this border, while the other vines of the same age (and treated, otherwise, in the same way,) bore only mildewed and worthless fruit. We consider both these instances excellent illustrations of the value of specific manures.

We promise to return to this subject again. In the mean time it may not be useless to caution some of our readers against pursuing the *wholesale* course with specifics which all quack doctors are so fond of recommending—i. e., "if a thing is good, you cannot give too much." A tree is not all *bones,* and therefore something must be considered besides its anatomical structure—important as that may be. The good, old-fashioned, substantial nourishment must not be withheld, and a suitable ration from the compost or manure heap, as usual, will by no means prevent our orchards being benefitted all the more by the substances of which they have especial need, in certain portions of their organization.

From the Horticulturist for March.

Special Manures for Fruit Trees.

Washington City, Jan. 22d, 1848.

Dear Sir:—The information contained in the leading article of your Horticulturist for this month, (January) is worth ten years subscription to that work, to any person that has an apple orchard. Since reading it, I have, for my own satisfaction, made inquiries with regard to apple trees, of sundry gentlemen residing in the western country, all of whom agree in remarking that *apples are invariably the best and most abundant in limestone portions* of that country. Can you not, sir, in your next number, (or at farthest, in the March number,) give to new beginners, like myself, some inkling as to the *quantity* of the requisite materials to be applied to apple and pear trees, and to grape vines.

Two and a half years ago I purchased some land, one and a quarter miles from, and in full view of the capitol of the United States. There was upon it, when I purchased, a small orchard of peach and apple trees. The soil is, I think, sufficiently rich. The peach trees, now ten years old, are thrifty, and bear large quantities of fair and fine flavored fruit. The apple trees bear scarcely at all, and the fruit they produce is small and worthless. The trees grow very well.

Very respectfully and truly yours,

Dan. Gold.

A. J. Downing, Esq.

For old apple orchards, upon soil deficient in lime, we would recommend a top-dressing of lime—for the first time—of 200 bushels to the acre. This will, usually, if the land is in good condition, bring the trees into good bearing condition again. In some soils, the effects will be immediate, and in others it will require one or two seasons for the lime to produce its effects.

For middle sized bearing trees, a *peck* of air-slacked lime to each tree, is sufficient. It is, perhaps, best applied in the autumn, but it will answer very well in the spring. Scatter it evenly over the surface of the ground, as far as the roots extend. It may be ploughed or hoed under slightly, or left upon the surface, as it will find its way downwards in the soil.

To keep an apple orchard in the *fruit-bearing condition,* in a soil not calcareous, and not naturally congenial to the tree, it should be dressed with lime, and with ashes, every alternate autumn, and manured every other spring. The same quantity of spent ashes as of lime, may be used for each tree.

For the pear tree, we prefer the following compost. Take a wagon load of peat, or black, swamp earth—dissolve 20 lbs. of potash in water, and water the peat thoroughly with the liquid. Let it lie a couple of days, and it is fit for use. Or, for the same quantity of peat, use one-third of a load of leached wood ashes, (or ten bushels of fresh ashes,) mixing the whole, and letting it lie a fortnight before using it. Give each middle sized bearing pear tree, a *bushel* of this compost annually; a newly planted young tree, half a peck, and others in this proportion. If this compost is applied in the spring, the trees may also have a top-dressing of *bone dust,* if easily obtained, in the autumn, at the rate of half a peck to a tree.*

* All fruit trees are much benefited by phosphate of lime (i. e. bone dust;) but the pear especially. Where bone dust cannot be had, bones themselves may be dug in about the roots and allowed to decompose gradually. Four fifths of all the bones from the kitchen are thrown away, in the country. If these were saved, and put at the bottom of the holes, when planting pear trees, they would furnish a most enduring supply of phosphate to the roots.

The same compost, and the same quantities, will answer admirably for the grape vine But as the grape is a strong-feeder, and likes more lime than the pear, we would give it, besides an autumnal coat of lime, at the rate of from 50 to 100 bushels to the acre, applied along with any manure or compost most easily obtained.

For the plum tree, in light soils, (there is little or no difficulty in growing it in clay soils,) we would recommend a compost, made as follows: To two wagon loads of strong loam, or yellow clay, add a bushel of cheap salt and four bushels of lime. Mix the whole thoroughly; suffering it to lie at least a fortnight. Apply this as a *top layer* or *top dressing* to the soil directly under plum trees, (spreading it over the surface as far as the branches extend,) at the rate of *two bushels* to a middle sized bearing tree, or half a peck to a young, newly planted tree.

As a general campost for fruit trees, we repeat, that nothing is equal to that formed of *ashes and peat;* [for directions see page 46 O. Cult, 1848.] These materials are easily obtained in all parts of the country, and they contain the elements most essential in the organic and inorganic structure of fruit trees. Where peat is not at hand, use wood ashes alone, at the rate of half a bushel of leached ashes to each middle sized bearing fruit tree. But as ashes furnish only the mineral or inorganic elements of food, the usual supply of ordinary manure must not be withheld, unless the soil is already sufficiently rich.

Our readers will not consider these hints as scientific formulas for manuring these several fruit trees. They are only rough recipes for most easily making composts, to supply the elements which science has demonstrated to be most essential to the growth, health and productiveness of some of our leading fruits. We give them, to enable those who, like our correspondent, are beginners, to feed their orchards and fruit gardens with appropriate food, without the danger of destroying their trees. To give positive directions for *special manures,* it would be necessary to have an analysis of each particular tree, as well as each particular soil, on which it is to be grown. But since we now know what their general organization requires, we can furnish to soils naturally deficient the wanting elements. The trees themselves,—this being done, will speedily take up the necessary food and assimilate it; giving us back a reward in healthy growth, and abundant and excellent crops.

From the Horticulturist for April.

Special Manure for Pear Trees.

Dear Sir:—I have used and recommended the compost you speak of in the March number of the Horticulturist, in your article on "special manures for fruit trees," as a manure for the pear tree in particular. I have usually added to the compost, say in measure, one peck of fine *iron filings,* or one peck and a half of crude turnings of iron, to each load of peat, or muck, and in that proportion for a larger or smaller quantity; and have always noticed the most favorable result.

Two years since I applied this compost to a large pear tree which stood in a damp loamy soil, but which had not borne any fruit of consequence for six or seven years in succession, although it grew rapidly in size, and sent out a large number of fine healthy shoots. The owner of the tree proposed engrafting some other kind of scions upon the stock, it being a fine variety, (the Andrews.) I recommended "one year's patience." He then said, "what would you do with it?" I replied, "I would attempt to remove it, or give it a better soil, and one more adapted to its wants." He remarked: "Very well, take it under your charge; I will spare it this year."

After examining the soil very carefully, I found, as before remarked, a clayey loam, quite damp, and the tree growing in a lone situation. I caused nearly all the earth to be removed from the roots of the tree, and the turf taken off in a circle of seven feet diameter, leaving the tree in the middle of a pan, caused by the removal of the sod and earth. I then applied a sufficient quantity of compost to fill the hole full, the whole new soil rising a little around the body of the tree. The quantity of muck used was one quarter less, in this instance, as I believed the tree required not so large a quantity of muck as one would growing in a higher location, but rather more sand. I used sand. My compost was formed as follows: Three parts of muck to one part of sand, and a proportionate quantity of potash water, and iron filings, one peck and one-half to the load. The tall or leading shoots of the tree were shortened, the tree well scraped and trimmed, &c. The result of this application was a *full crop of pears,* and the tree making, the same year, a good growth of wood, every way healthy. The fruit, two barrels and one-half, grew fair and ripened well; and the tree has ever since borne a good crop, and continues to grow vigorously. This is, to my own mind, a sufficient test of the utility and value of the compost you recommend in your widely extended and truly valuable work.

Two years ago I had occasion to remove a Jargonelle pear tree which had borne fruit, and which was seven inches in diameter. Having previously prepared a hole for the same, of sufficient size and depth, I lifted the pear

tree from its original situation by digging a trench five feet from the body of the tree, and of sufficient depth to enable me to cut off very smoothly all the roots of the same, leaving a large ball of earth remaining attached to the tree. Then, by means of levers, the tree was raised easily and carefully, and removed to its new location and secured, and the hole filled up with the composition recommended by you in your article on "special manures for fruit trees," with the addition of the iron filings only. The tree was removed early in the month of April, and ripened, the same year, some forty fine pears; and grew well. The next season it bore nearly as many pears as it ever bore in one year previous to its removal; and this year, 1848, it will doubtless bear and ripen a larger quantity of pears than it ever has in any previous season.

Salt, as an article of manure for the *plum tree* I have long known to be valuable, and have used to considerable extent. I shall give you, this fall, the result of several experiments which I am making with salt, charcoal, &c.; for I believe a little more practical knowledge only is wanted, by many of our agriculturists, to place the plum, the pear, and the peach, in all their varieties and richness, within the pale of every kitchen garden.

Yours, truly, L. WYMAN, JR.

West Cambridge, Mass., April, 1848.

[The foregoing is precisely to the point, and is also exactly the kind of evidence that we are most desirous of placing before our readers on this important subject.—ED. HORT.]

Science of Hay Making.

When grass first springs above the surface of the earth, the principal constituent of its early blades is water, the amount of solid matter being comparatively trifling; as it rises higher into day, the deposition of a more indurated form of carbon gradually becomes more considerable; the sugar and soluble matter at first increasing, then gradually diminishing, to give way to the deposition of woody substance.

The following table affords a view of the composition of rye grass before and after ripening:

	June 18.	June 23.	July 13.
Water	76.19	81.23	69.00
Solid matter	23.81	18.77	31.00

These are important practical facts for the agriculturist; for if, as we have endeavored to show, the sugar be an important element of the food of animals, then it should be an object with the farmer to cut grass for the purpose of haymaking at that period when the largest amount of matter soluble in water is contained in it. This is assuredly at an earlier period of its growth than when it has shot into seed, for it is then that woody matter predominates; a substance totally insoluble in water, and therefore less calculated to serve as food to animals than substances capable of assuming a soluble condition. This is the first point for consideration in the production of hay, since it ought to be the object of the farmer to preserve the hay for winter use in the condition most resembling the grass in its highest state of perfection. The second consideration in haymaking is to dry the grass, under such circumstances, as to retain the soluble portions in perfect integrity. To ascertain whether hay, by the process and exposure which it undergoes, loses any of its soluble constituents, the following experiments were made:

1. 3,000 grains of rye grass, in seed on the 13th of July, gave up to hot water a thick syrup fluid, which, when dried till it ceased to lose weight 212°, weighed 217.94 grains, equivalent to 7.26 per cent.

2. 2,500 grains of rye grass digested in cold water, yielded 53.23 grains of extract, equal to 2.12 per cent. This rye grass contained 31 per cent. of solid matter, and 69 per cent. of water.

3. New hay made from rye grass, and containing 20 per cent. of water, for the sake of comparison, was also subjected to similar trials.

1. 1,369 grains gave to hot water 220.77 of extract, = 16.12 per cent.; 1,000 grains gave to hot water 159.34 of extract, = 15.93 per cent.; 1,000 grains gave to hot water 14 of extract, = .14 per cent.

2. 2,000 grains of new hay, in seed, digested in cold water, yielded 101.3 grains of extract, = 5.06 per cent. of soluble matter.

From these numbers we learn that 100 parts of hay are equivalent to 387½ of grass. This amount of grass should contain of soluble matter, in hot water, 28.13 parts, and in cold water 8.21 parts. But the equivalent quantity of hay, or 100 parts, only contain 16 instead of 28 parts soluble in hot water, and 5.06 instead of 8¼ parts soluble in cold water. A very large proportion of the soluble matter of the grass has obviously disappeared in the conversion of grass into hay. The result of the haymaking in this particular instance has, therefore, been to approximate the soft, juicy, and tender grass to woody matter, by washing out or decomposing its sugar and other soluble constituents. These facts enable us to explain the reason why cattle consume a larger amount of hay than is equivalent to the relative quantity of grass. Thus, animals which can subsist upon 100 pounds of grass, should be able to retain the same condition by the use of 25 pounds of hay, if the latter suffered no deterioration in drying. The present series of experiments, however, show that a cow, thriving on 100 or 120 pounds of grass, required 25 pounds of hay, and 9 pounds of barley or malt, affording thus collateral evidence of the view which we have taken of the imperfection of the process of haymaking at present in use in this country. The great cause of the deterioration of hay is the water which may be present, either from the incomplete removal of the natural amount of water in the grass by drying, or by the absorption of this fluid from the atmosphere. Water, when existing in hay from either of these sources, will induce fermentation, a process by which one of the most important constituents of the grass, viz: sugar, will be destroyed. The action necessary for decomposing the sugar is induced by the presence of the albuminous matter of the grass; the elements of the sugar are made to react on each other in the moist state in which they exist, in consequence of the presence of the water and oil, and are converted into alcohol and carbonic acid, according to the following formula:

	Carb.	Hyd.	Oxyg.
1. Atom sugar	12	12	12
2. Atoms alcohol	8	12	4
3. Atoms carb. acid	4	0	8

That alcohol is produced in a heated hay-stack, in many cases, may be detected by the similarity of the odor disengaged to that perceptible in a brewery. We use this comparison because it has been more than once suggested to us by agriculturists. The quantity of water or volatile matter capable of being removed from hay at the temperature of boiling water varies considerably. The amount of variation during the present experiments was from twenty to fourteen per cent. If the lower per centage could be attained at once, by simple drying in the sun, the process of hay making would probably admit of but little improvement; but the best new made hay that we have examined contained more than this amount of water; the numbers obtained verging towards twenty per cent. When it contains as much as this it is very liable to ferment, especially if it should happen to be moistened by any accidental approach of water. The only method which we have found to succeed in preserving grass perfectly entire, is by drying it by means of artificial heat. Rye grass contains, at an early period of its growth, as much as eighty-one per cent. of water, the whole of which may be removed by subjecting the grass to a temperature considerably under that of boiling water; but even with a heat of 120° the greater portion of the water is removed, and the grass still retains its green color, a character which appears greatly to add to the relish with which cattle consume this kind of provender. When this dried grass, (as it may be truly termed, by way of distinction, from hay,) is examined, it will be found to consist of a series of tubes, which, if placed in water, will be filled with the fluid, and assume, in some measure, the aspect of its original condition. In this form cattle will eat it with relish, and prefer it to hay, which, in comparison, is blanched, dry, and sapless. The advantages obtained by this method of making hay, or rather of preserving grass in a dry state, are sufficiently obvious. By this means all the constituents of the grass are retained in a state of integrity; the sugar, by the absence of water, is protected from undergoing decomposition; the coloring matter of the grass is comparatively little affected, while the soluble salts are not exposed to the risk of being washed out by the rains, as in the common process of hay making. The amount of soluble matter capable of being taken up by cold water, is, according to the preceding trials, as much as five per cent., or a third of the whole soluble matter in hay. We may, therefore, form some notion of the injury liable to be produced by every shower of rain which drenches the fields during hay harvest. It is not only, however, the loss which it sustains in regard to the sugar and soluble salts, that renders hay so much less acceptable than grass to the appetite of cattle. The bleaching which it undergoes in the sun deprives it of the only peculiarity which distinguishes the one form of fodder from the other; grass deprived of its green coloring matter presents exactly the appearance of straw, so that hay ought to be termed grass straw. It is obvious, from the experiments detailed, that the operation of hay making, as conducted in this country, has a tendency to remove a great proportion of the wax in the grass. Thus it was found that rye-grass contained 2.01 per cent. of wax. Now, as 387½ parts of rye-grass are equivalent to 100 parts of hay, and as 387½ parts of grass contain 7.78 parts of wax, it is obvious that 100 parts of hay should contain the same amount of wax; but by experiment it was found that two hundred grains of hay contained four grains of wax, which is equivalent to two per cent., almost exactly the amount contained in grass. Hence it appears that no less than 5.78 grains of wax have disappeared during the hay making process. The whitening process which the grass undergoes in drying renders it apparent that the green coloring matter has undergone change; but that it should have been actually removed to such an extent, or at least have become insoluble in ether, is a result which could scarcely have been anticipated without actual experiment.—*Dr. Thomson on Food.*

A Hymn of Joy.

I look on the bright and beautiful earth,
And my heart is with gladness stirred;
And fain would I pour forth my song of mirth,
Like the strain of the morning bird.
For the fair sunshine, and for the glad earth,
For the bright fountain where music has birth,
For the pattering rain drops' gentle fall,
For the cuckoo's note and the whippoorwill's call,
For the green woodlands, where summer winds sigh,
For the little moss cups, and the violet's eye,
We thank thee, we thank thee, our Father on high!

God of all goodness! God of all love!
Father of mercies! we look unto thee.
Blessed be thou in the heaven above!
For on thy footstool thrice blessed are we.
For the smiles of the morn, and the tears of the night,
For the sun's bright ray, and the moon's soft light,
For the song of birds through the green old trees,
For the breath of flowers on the summer breeze,
For the worship of stars in the solemn night,
The white-robed priesthood, that walk in light,
We bless thee, we bless thee, God of all might!—Ex.

Ohio Literature.

The Literature of Ohio is becoming, in some respects, the most important in the Union. On the Atlantic, they seem to be dependent for ideas, in a great degree, to Europe. They cannot get above asking, "What does Mrs. Grundy think?" Now, we in the West do not estimate the opinions of Mrs. Grundy so highly, as to care much what she thinks. We believe that God and Nature have endowed us with the capacity to think for ourselves. In all the Reviews, Magazines, and Periodicals, published on the Atlantic Coast, there is palpable evidence that they are looking to England for Opinions. To a certain extent, this is proper. We must know what is going on in Europe—and we ought not to underrate the opinions of strong minds in any part of the world. But, we ought never to fall into the grievous error of thinking that Europe is the *source of thought*. It is no such thing We say boldly, and defy contradiction, that *for the last hundred years America has done more thinking for the World, than the World has done for America*. We say more, that it has given more *original ideas* to the World than the World has to it. Why, then, should we look over the Ocean for ideas and opinions?

We shall not now stop to comment on these propositions, nor on the facts which have brought them to our mind. We mean merely to say, that there have been published, and soon will be published, in Cincinnati, some very important works. We have, on our table, and intend to notice more especially, two volumes on the WEST, by Judge Hall. The last one is chiefly on the COMMERCE OF THE WEST. These volumes are mainly composed of facts, and original observations. They give the reader a very correct view of the vast resources, and rapid developement of the Valley of the Mississippi. They are liberal contributions to our American Literature from one, who to execute such works, must employ the hours of relaxation from a most arduous business.

A forthcoming book, published, as the other was, by the intelligent firm of H. W. DERBY & CO., is the EARLY SETTLEMENT OF OHIO, or Pioneer History, from the pen of Dr. HILDRETH, of Marietta. No one in Ohio is more competent to make such a work accurate and interesting. It is now nearly ready for publication.

Messrs. Derby & Co. have another work in press which we venture to say will excite much attention. This is a work on the SCIENCE OF GOVERNMENT, by Judge Grimke. The author is known to us, as one of the cleverest thinkers and most elegant writers of the West. He will make people *think*, if nothing else.

There are other works in preparation, which will excite public attention, and give an elevated position for the writers of Ohio. But, we shall forbear to notice them, till the period of their publication.—*Cin. Chronicle.*

How to Catch Hawks.

The following ingenious method for destroying these pests to the farmer, is given by S. Webb Esq., of Waldo county, (Me.,) in a late number of the Belfast Republican:

"Erect a pole, 12 or 15 feet high, in a place where there will not be any thing else near for them to light upon, and upon it set a common fox trap, on which they will alight. A strong rat trap will answer the purpose, by tying it on the pole lengthwise, with the jaws raised above the end, the pole being a little leaning, so that the jaws will not fall together. When one hawk is taken, tie it on the ground near the pole, and its mate will be in the trap in a short time. The season is near for the hawks to reappear, and if farmers do not wish to have their chickens destroyed by them, they will do well to adopt this method of putting a stop to their depredations. Printers in the United States, by giving this an insertion, will circulate valuable information."

ADVERTISEMENTS, suited to the character or this paper will be inserted for 6 cents per line for the first, and 3 cents for each subsequent insertion.

The Markets.

CINCINNATI, *June* 30.—Business continues dull, and prices low—money scarce, water low, and freights high. Flour sells at $3,60@$3,75 per bbl. Wheat, 65@70 cts. Corn, 28@30 cts. Oats, 24@25 cts. per bush. Mess pork, $8@$8,25 per bbl. Butter is plenty; packers pay 9@9½ cts.; retails at 12½@15. Cheese, for shipment, 6 cts. ℔ lb. Eggs, for packing, 6½ cts. *Wool* is without change, and little doing—growers unwilling to accept prices offered.

CLEVELAND, *June* 29.—Flour$4,75@4,81. Corn 36 cts. Wheat 95 cts. Oats 30 cts Mess Pork $9. Salt $1 25 cts.

NEW YORK, and other eastern reports, show no change in the markets

THE HORTICULTURIST,

AND JOURNAL OF RURAL ART AND RURAL TASTE

EDITED BY A. J. DOWNING, ESQ.

THE THIRD VOLUME OF THE HORTICULTUIST commences on the 1st of July, 1848.

The publisher, at the close of the second volume, desires to return his thanks for the handsome patronage bestowed on this work. It has already attained a circulation equal to that of any similar magazine in Europe, and far beyond any of its class hitherto attempted in America. Its influence on the progress of gardening, and the diffusion of information in matters of rural taste, is already strikingly apparent. Its extended and valuable correspondence, presents the experience of a large body of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader interested in country life.

In order to introduce still greater improvements in the work, and especially in its illustrations, the publisher takes this method of presenting it in various parts of the United States, where it is not already known, and where he is confident that it only needs to be examined, or even announced, (such is the popularity of Mr. Downing's works,) to be at once ordered.

The work is published monthly in 8vo. form, of 48 pages—each number accompanied by a frontispiece and several other engravings. The list of constant contributors embraces our first horticulturists and practical cultivators. The "FOREIGN NOTICES" present a summary from all the leading horticultural journals of Europe; the "DOMESTIC NOTICES," and ANSWERS TO CORRESPONDENTS, furnish copious hints to the novice in practical culture; and the numerous and beautiful illustrations—Plans for Cottages, Green-Houses, the Figures of New Fruits, Shrubs, and Plants, combine to render this one of the cheapest and most valuable works to country gentlemen on either side of the Atlantic.

NOTICES OF THE PRESS.

No one who loves the country will willingly be without Mr. Downing's Journal. In it he combines the merits of all his previous works. While informing the practical gardener as to his particular vocations.—the best sorts of garden fruits, vegetables, ornamental shrubberies, etc., and as to the best manner of cultivating each and all, he intersperses lessons of taste in rural architecture, of profit in rural economy, of knowledge at once useful and brilliant in botany, and of delight in all the branches of that most rational, independent, and healthful existence—life in the country.—N. Y. Courier and Enquirer.

The Editor of this attractive Journal has earned a wide renown by his elegant and most useful works on Landscape Gardening, Cottage Architecture, and Pomology. As an original and accomplished author in these attractive and popular pursuits, he has no rival since the death of the indefatigable Loudon; and his merits have been acknowledged by marks of high consideration from some of the crowded heads of the Old World.—Silliman's Journal.

This magazine is printed and illustrated in beautiful style, at Albany. As to its character in other respects, it is sufficient to say that it is conducted by A. J. DOWNING, the most distinguished writer in the Union, on all topics connected with horticulture.—Cincinnati Gazette.

We strongly recommend this excellent and useful work to all who are attached to rural pursuits, either for amusement or for profit.—Montreal Gazette.

Every one all ambitious of keeping up with the improvements of the day, in gardening, should subscribe for this Journal.—New-Orleans Com. Times.

We have found much pleasure in assuring ourselves of just what we anticipated of the work in such hands, a *desideratum* for the *advancing* taste of the country in horticulture and rural architecture, to which the work is chiefly devoted. No person, perhaps, combines more harmoniously the scientific and the practical than the originator of this work.—New York Observer.

TERMS—Three dollars per year.—Two copies for Five Dollars. To Agents, a discount of 20 per cent. will be made. ☞ All payments to made in advance, and orders to be post-paid.

☞ All business letters to be addressed to the Proprietor LUTHER TUCKER. Albany, N. Y., and all communications to the Editor, A. J. DOWNING, Newburgh, N. Y.

SALE OF STOCK,

At the New York State Fair, at Buffalo.

I Will sell on the show days of 5th, 6th, and 7th of September next.

30 to 35 thorough bred short horned Cattle—Cows, Bulls, and Heffers,

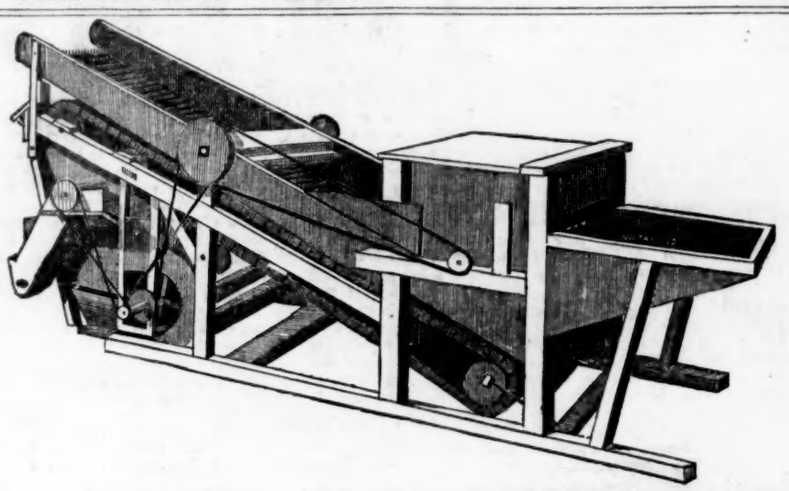
20 to 25 Devon ditto,

25 to 30 Cotswold (long-wooled) Sheep—Rams and Ewes.

20 to 25 South-down ditto.

All of the above are descended from the best herds and flocks of England, with the best prodigrees. LEWIS F. ALLEN.

Black Rock, July 1st, 1848.



PITTS' PATENT GRAIN THRASHER AND SEPARATOR.

ISAAC H. JAMESON, MANUFACTURER,

Hart and Brown's Buildings, Massillon, Stark County, O.

HE Subscriber having taken the above shop formerly carried on by H. D. Jameson, and having purchased the exclusive right of building Pitts' Patent Seperators for Ohio, will continue the manufacturing of said machines in this place.

This Machine is portable, only requiring about 30 minutes to put it up for use, either in the field or barn It thrashes, carries off the straw, fans the grain in the most perfect manner, carrying it into a bag or box, all at one operation, causing a great saving of hands in attendance. These machines are simple, strong and durable, constructed to endure the working abilities of eight horses, but are usually worked with from four to six, thrashing and cleaning from 200 to 500 bushels per day, with great ease to all concerned.

The subscriber also builds D. Cary's Double Pinion Horse Power. This power is constructed with a double set of Wheels and Pinions through its whole arrangement, which greatly overcomes the friction, causing it to run as light as the best four horsepower and at the same time possesses double the strength of the common eight horsepower. I sold from this shop last season, about 40 machines and horsepowers, and from the universal satisfaction which these machines have given and from my personal knowledge of their favorable reception in New York, Michigan, Illinois, Wisconsin and Canada, I have commenced 100 machines which will be completed by harvest. Orders by letter will be promptly attended to, and machines can be forwarded to all parts of the State and surrounding States. Persons wanting machines would do well to examine this machine before purchasing elsewhere.

May 29, 1848. ISAAC H. JAMESON.

PRINCE'S PREMIUM STRAWBERRIES.

WM. R. PRINCE & Co., Proprietors of the Linnæan Botanic Garden and Nurseries, will after the 1st August, offer their splendid varieties of the Strawberry, which have just received all the premiums of the Long Island Horticultural Society, and will there be described in the Horticultural Periodicals; comprising the Charlotte, Primordian, Primate, Cornucopia, Crimson Cone, Crimson Pine, Brilliant, Let Baron, Montevides Pine, Cushing, Eaustalia, Unique, Refulgent, Prolific Hudson, Scarlet Cone, Lizzie, Randolph, Abyssinian, Prince, &c.—Also Burr's nine Ohio varieties, Hovey's Seedling, Boston Pine, Back Prince, Ebberlein, Buist's Prize, Aberdeen Beehive, Bishop's Seedling, Hudson, Jenney's Seedling, Iowa, Ladies Finger, Large Early Scarlet, Victoria, Prince Albert, Alice Maude, Taylor's Seedling, Necked Pine, Pistallate Keen, Willey, Green, Prolific Hautbois, and Red and White Bush and running Alpines.

Descriptive Catalogue with prices, will be sent to every post-paid applicant.

Flushing, July 1st, 1848.

Rogers' Patent Self-Sharpening Steel Cultivator Teeth.

HAVING Purchased of the Patentee the right of the State of Ohio, except the counties of Ashland and Trumbull, for the manufacture and sale of the above important farming implement, and having put in operation at Akron, Ohio, a complete set of machinery for their manufacture, we are now prepared to supply all demands for them on short notice.

These teeth are made of Steel Plate of such size and dimensions as to be sufficiently strong for two horses. They wear sharp, and when worn too short, may be spread and crooked at the bottom, and thus made to last another term of years.

The Corn Cultivator surpasses all other implements in the cultivation of corn, subduing the weeds and leaving the land nearly as level between the rows as before.

After the sward is broken the Fallow Cultivator renders further plowing unnecessary; subduing blue grass and all other vegetation better than plow and harrow—thus saving nearly one half the labor of putting in a crop of wheat.

They are much used for seeding, covering the seed deeper than the harrow, and not as deep as the plow, leaving the land in small ridges or drills, thus rendering the crop much less liable to winter kill.

They are cheap and durable and when tested are found to be more necessary than the harrow, and no good farmer will be without them.

Persons wishing to purchase teeth, rights of counties, or to engage in selling may address us, post-paid, at Akron, Ohio.

G. W. GRIFFITH & Co.

Akron, O., May, 1848—4t.

P. S. A supply of the above teeth may be found at Gills iron store, Broad street, Columbus.

Sale of Short Horned Cattle.

I Will sell at Buffalo, during the days of the State Fair, on 5th, 6th and 7th September next; under the directions of the officers of the N. Y. S Agricultural Society, twenty to twenty-five thorough bred short horned cattle. Catalogues and Pedigrees will be ready at the time of the fair.

Also, I will sell at the same time, fifty Merino Rams, bred from the Blakesly flock.

References. A. B. Allen, N. Y.; Sanford Howard and B. P. Johnson, Albany; Francis Rotch, Butternuts; and L. F. Allen, Black Rock. J. M. SHERWOOD.

Auburn, N. Y., May 16, 1848.

TURNIP SEED,

Of the following Valuable Varieties:

LARGE White Globe, White Norfolk, Red Round, Ruta Baga or Yellow Swede—*used chiefly for stock feeding.*

White Stone, Yellow Stone, White Dutch, Yellow Dutch—*for table use.*

For sale at the Seed Store, north side of East Fifth street, Cincinnati, (formerly next door to the Dennison House.)

H. HUXLEY.

TO FARMERS.

HUSSEY'S REAPING MACHINE, OF BALTIMORE, MD.

THE subscribers having purchased the exclusive right of the Patentee, to make and vend HUSSEY'S celebrated

Reaping Machine,

for this part of the State, take this method of informing the Farming Public, that they are now manufacturing said Machines, at their shop in the Basement story of the Urbana Factory, Champaign county, Ohio, where they invite all interested to call and examine them. The reputation of these excellent Machines is now established. Their usefulness has been tested in the vicinity; and reference for this fact may be made to Wm. S. Taylor and Rezin Wilson, of Buck Creek, and to Mr. Harris or Mr. Burnett, Clark county.

The demand for them will doubtless be large; and as the subscribers desire to supply it, they respectfully suggest to those wishing to procure them, that they call and leave their orders for Machines at as early a day as possible.

MINTURN & ALLEN.

From the Richmond Planter.

HUSSEY'S AND M'CORMICK'S REAPERS.

"I have had in operation on my plantation this year, both Hussey's and McCormick's reapers. Now as you have asked me to furnish the "Planter" with the result of my own experience and opinion as to the comparative merits of the two machines, it is now at your service. I have had them both in operation, (as the weather would permit,) for the last fortnight, and have cut with the two rather upwards of two hundred acres of wheat. Both machines have been, I think, very fairly tested, in all qualities of grain, from wheat five feet and more in height, both standing up, and lodged and tangled, and averaging, as is supposed, from thirty and forty bushels down to light thin wheat, not averaging more than four bushels, (being some galled hills,) and I am candidly and decidedly of opinion that Hussey's Machine is vastly superior. I deem it superior, not only in the execution of its work, but in the durability of the machine. So well pleased am I with its performance, that I have ordered another machine of Hussey's for my next harvest and also one, and probably two, for my father's plantation. I consider this machine invaluable to the grower of wheat, and would recommend every farmer who grows even fifty acres of wheat to purchase one. He may rest assured that he will be pleased with the purchase. I shall probably be in Richmond shortly. Yours very respectfully. J. POLLOCK BURGUYN.

Occonichee Wigwam, near Halifax, N. C.
June 20, 1846.

PETERS' BUFFALO WOOL DEPOT.

(SECOND YEAR.)

I HAVE established a Wool Depot upon the following plan: 1st.—The wool is thrown in 10 sorts; Merino wool being No. 1, the grades numbering down from 1 to 5; the coarsest common wool being No. 5. Saxony wool is thrown into extra, and prime 1 and prime 2. Combing and De Lahies make 2 sorts more.

2nd.—I charge for receiving, sorting, storing and selling, *one cent per pound*; this includes all charges at the depot, except insurance.

3d.—Sales are made for cash, except when otherwise directed by owner.

☞ All wool consigned to me should be marked with the owner's name.

Warehouse, corner of Washington and Exchange Streets.

Buffalo, January 1, 1848. T. C. PETERS

THRESHING MACHINES.

THE subscribers having purchased the right of making and selling for the State of Ohio,

PITT'S PATENT SEPARATOR,

Are now manufacturing the best lot of Machines ever offered in Ohio

C. M. RUSSELL & CO.

Massillon, Stark county, April 1st, 1848.